

Investing in Children: What Do We Know? What Should We Do?

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Editorial Note

This paper is forthcoming as the introduction to Sheldon Danziger and Jane Waldfogel (eds), *Securing the Future: Investing in Children from Birth to College* (New York: Russell Sage Foundation, 2000).

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Abstract

In October 1998, we convened scholars, policy makers, and practitioners to review what we know about the processes that affect child development and how we might wisely increase public and private investments in children to promote both their well-being and the productivity of the next generation. The conference, held at Columbia University in New York and sponsored by the Ford Foundation's Programme on Asset Building and Community Development, brought together US psychologists, economists, sociologists, demographers, political scientists, social workers, and medical doctors. We began by examining current investments in children and how they affect the development of the skills and competencies children need to succeed as adults in work, family, and society. Then we reviewed and synthesised what we have learned about childhood interventions from birth to college and what further investments in children are required, especially for disadvantaged children. In this paper, we review the background to the conference, summarise the findings of the conference, and outline our views regarding a number of key investments.

We conclude that there is no better way to break the cycle of poverty and inequality than to invest in children. We propose expanding investments in five key areas: programmes to improve the health of women of childbearing age; early childhood interventions, targeted to the most disadvantaged children; measures to raise the quality of child care and pre-school education; after-school and mentoring programmes; and programmes to raise the level of college attendance by high-ability youth from low-income families.

I. Introduction

When the National Science Foundation (1996) announced its Human Capital Initiative, Investing in Human Resources, it noted that:

The human capital of a nation is a primary determinant of its strength. A productive and educated workforce is a necessity for long-term economic growth. Worker productivity depends on the effective use and development of the human capital of all citizens, which means that schools, families, and neighbourhoods must function effectively. Unfortunately, there is substantial evidence that the United States is not developing or using the skills of its citizens as fully as possible. Only if the United States invests wisely in its human resources will it be able to maintain its place in a global economy where human creativity and human skill are increasingly more important than raw materials or physical infrastructure (p.1).

This paper, and those on which it draws, review what we know about the processes that affect child development (from US evidence) and how we might wisely increase public and private investments in children to promote both their well-being and the productivity of the next generation. In October 1998, we convened scholars, policy makers, and practitioners to address this challenge. The conference, held at Columbia University and sponsored by the Ford Foundation's Programme on Asset Building and Community Development, brought together psychologists, economists, sociologists, demographers, political scientists, social workers, and medical doctors. We began by examining current investments in children and how they affect the development of the skills and competencies children need to succeed as adults in work, family, and society. Then we reviewed and synthesised what we have learned about childhood interventions from birth to college and what further investments in children are required, especially for disadvantaged children. The papers themselves will be published in Danziger and Waldfogel (forthcoming).

The conference contributions followed the life-cycle from early childhood, through the school-age years, until the period when youth make the transition from high school to work and/or college. By focusing on childhood and adolescence, we emphasise those factors – families, neighbourhoods, school systems, and government

interventions - that affect the intergenerational transmission of well-being. If investing in children is as important to both individuals and the nation as the National Science Foundation report concludes, then equality of opportunity will not become a reality until all children have enhanced opportunities to maximise their potential. The years we study are so critical because they set the stage for adult success, or failure, in the labour market, family life, and so on.

Recent advances in brain research emphasise the importance of the earliest experiences in life. The brain grows very rapidly in the first three to five years and what happens at this time shapes cognitive and socio-emotional development (see, for example, Shore, 1997). Recent social science research has documented the processes through which the impact of families, schools, neighbourhoods, and government programmes and policies interact to affect developmental outcomes, (see, for example, Brooks-Gunn, Duncan, and Aber, 1997; and Duncan and Brooks-Gunn, 1997). The papers reviewed here summarise and extend research on these topics.

A major theme is how the high rate of child poverty and persistent racial residential segregation in the US restrict access to investments in poor children and racial/ethnic minority children. These children face greater than average developmental obstacles, yet tend to have fewer than average resources invested in them. Another cross-cutting theme is the need to consider factors such as gender, race, and ethnicity in thinking about appropriate investments for children. The USA is becoming increasingly diverse and an increasing share of children are immigrants or have parents who are immigrants. If interventions are to be successful, they must be responsive to the diverse needs of children. In fact, several contributors emphasised the need in some areas for programmes that differentially target girls, or African-Americans in general, or African-American males in particular, or children living in neighbourhoods of concentrated poverty, or Latinos, especially immigrants.

The contributions reviewed what we know about effective interventions throughout childhood, and how to evaluate that knowledge and to formulate an effective strategy for expanding investments in children and adolescents from birth to college. In the concluding section of this paper, we outline our views regarding a number of key investments.

A successful strategy for investing in children in the USA must incorporate American values and beliefs about government interventions. Americans have always been more favourably inclined

toward investment in children as a way to promote equal opportunity and reduce poverty in the next generation of adults than they have been toward redistributing resources to reduce labour market disadvantages and poverty among adults. President Lyndon Johnson, in declaring War on Poverty, promised “a hand up and not a hand out”. It has been and remains the case that increasing or even maintaining public spending on cash transfers for the disadvantaged is more difficult than increasing spending on educational, nutrition, or medical care programmes on their behalf.

Although service-oriented programmes for disadvantaged children tend to be popular, Federal budgetary rules, Congressional politics, and public opinion now make it more difficult than in the past to garner support for any major initiatives. Thus, the authors’ goal is to demonstrate that the policies discussed here would represent sound investments in the productivity of the next generation.

A consensus has recently emerged, among economists, developmentalists, and others, that investments in early childhood are cost-effective. For example, a recent review (Károly *et al.*, 1998) found that a variety of early intervention programmes have been successful in improving cognitive development and other outcomes for children. Several of the conference contributions provide further evidence on this point. In contrast, there is controversy about the cost-effectiveness of “second-chance” interventions to promote educational attainment among high school dropouts, welfare recipients, and other disadvantaged workers. For example, James Heckman, one of the contributors, concluded that “... adults past a certain age and below a certain skill level make poor investments” (1996, p.10). Another contributor, Lisa Lynch, has challenged this conclusion:

However, this [discouraging evidence] does not mean that we should eliminate funding for all training programmes. Instead we should be analysing the most cost effective ways to improve the assistance to various 'at risk' groups so that they are successfully lifted out of poverty. (1997, p.16)

Several contributions reviewed the most recent evidence on promising second-chance programmes and suggest how they can be further improved.

The research evidence is more favourable in support of early interventions, and the political support is also greater. Investments in early childhood are seen as prudent because they come at an opportune time and because they can yield lasting benefits. A 1997 Report of the

Council of Economic Advisors (*The First Three Years: Investments that Pay*) re-affirmed the importance of early intervention:

Scientists and educators have identified the first three years of life as a time when children have ‘fertile minds’. Efforts to help children during these years are especially fruitful. Because of the long-lasting effects, early investments can have big payoffs. They avert the need for more costly interventions later in life, and so contribute to happier, healthier, and more productive children, adolescents, and adults. (p.22)

The conference contributions reviewed what is known about investments in physical, social, and cognitive development from birth through young adulthood, based on research and “best programme practices”. Then, they derived implications for scholarly research and for programmes and public policies.

II. Overview of the Chapters

As well as two introductory papers, two focus on early childhood development, three examine school-age outcomes, and three analyse the transition from high school to work and/or college. They emphasise how, depending on the stage of the lifecycle, developmental and school and labour market outcomes are affected by family, school, neighbourhood, and public policy inputs and interventions.

Current investments in children

The two introductory papers provide background on the extent of current investments in children and what they have accomplished and failed to accomplish. They analyse aggregate trends in educational outcomes and the returns from various intervention programmes.

Lisa Lynch documents the scope of investments in children and the extent to which outcomes for children and adolescents have declined in recent years. Because employers increasingly value skills and favour workers with education and training beyond high school, young people who leave school with a high school degree or less have found it harder to get jobs, especially ones that provide “good wages and benefits”. As the workplace continues to become more technologically advanced, employer demand for workers with literacy and numeracy skills have increased. Yet, 20 per cent of young workers lack even basic maths skills

(the corresponding figure for most European countries is 5 per cent). The fault, according to Lynch, lies not just with the schools, but also with the environments in which children are being raised. More children are living with single and/or working parents who have less time to spend with them than families did in the past. Fewer children are participating in extra-curricular activities, and more are living in neighbourhoods where violence threatens their safety.

Lynch, however, notes that several trends present opportunities, as well as challenges. Consider the increased share of young children whose mothers are working in the labour market. While this may reduce parental time inputs devoted to children, it poses an opportunity to provide young children with valuable experiences in early childhood education, if access to child care and pre-schools of sufficiently-high quality can be increased. The effects of maternal employment may be positive if working mothers are satisfied and challenged in their jobs and can thus provide a more stimulating environment for their children. However, these effects may be negative, if mothers are stressed and fatigued by their jobs and devote less attention to their children.

Another challenge/opportunity is the growing share of children whose first language is not English. This challenges schools to devise programmes to help these children succeed in school, but it also creates opportunities, as these children will be well-positioned to compete in the globalised labour market.

Lynch emphasises three main findings. First, education begets education, and education begets training. Those who complete more education initially are more likely to seek additional education and additional training. Second, education begins at home. The educational level of a child's parents is a primary determinant of how much education s/he gets and how well s/he does in school. Investments in parents' human capital raises not only their workplace productivity, but also makes them better teachers for their children. A government policy that focuses only on education and training for children will be ineffective if similar investments are not made in the parents. Third, individuals and employers on their own are likely to under-invest in children. Therefore, government policies to subsidise education and training are needed to offset private under-investment.

James Heckman and Lance Lochner evaluate when in the life cycle investments in children's development are most effective and conclude, given our experience to date, that returns are highest in early childhood. As a result, their top priority is to expand investments during the pre-school years. They reinforce the evidence described below about the

importance of the pre-school years for the development of cognitive skills, social skills, and motivation and how early intervention programmes can foster the development of these competencies.

Well-designed early intervention programmes, according to Heckman and Lochner, are a more cost-effective investment than the ones that have garnered the largest share of public investment in education and training – “second-chance” programmes for school-leavers and drop-outs. For instance, investments that prepare children to enter school ready and motivated to learn have greater effects than additional investments in school resources, such as higher teacher salaries or reductions in class size. Heckman and Lochner also conclude that the returns to further subsidising the costs of college are limited. They find that the lower college enrolment rates for youths from low-income families are due more to their early educational experiences which inhibited skills and motivation, than to financial constraints at the point of college entry. Investing at early ages has the advantage that the returns to those investments will be cumulative over time – those who have higher levels of skills at kindergarten will benefit more from later schooling and training.

Heckman and Lochner emphasise the higher returns of early investments relative to those at later ages, but do find that some programmes for school age children and adolescents have been cost-effective. In particular, they report positive effects of some mentoring programmes (such as the *Big Brothers/Big Sisters* programme and Philadelphia Futures’ *Sponsor-A-Scholar* programme) and some dropout prevention programmes (such as the *Quantum Opportunity Programme*). These programmes raise young people’s motivation and change their school attendance and other behaviours to a greater extent than they improve measured cognitive ability. Nor should investments stop after high school dropout or graduation – they conclude that additional private (as opposed to public) training for young adults who have completed their schooling would be beneficial.

Processes of early childhood development

Two further papers focus on the processes of early childhood development and how family and neighbourhood resources and parenting practices affect child well-being. They advocate expansion of the number of children served by programmes that have been shown to be most effective.

Barry Zuckerman and Robert Kahn review the social and biological pathways that influence children’s early health and

development. Understanding these pathways, especially how they affect early brain development, is critical, because the developmental foundation for the skills that children need to succeed in later years is laid during these years.

Zuckerman and Kahn emphasise the influences of maternal health and document how adverse social conditions, such as poverty, can be conveyed to children pre-natally, through maternal health-related behaviours or conditions such as smoking, substance use, folate-deficiency, or bacterial vaginosis. The influence of maternal health continues into early childhood. Maternal depression has long been identified as a risk factor for children's cognitive development and behavioural adjustment. Children who witness domestic violence are at risk of emotional and behavioural problems; this may also be true of children who witness violence in their communities. The influence of fathers, and paternal health, has been less studied, but fathers' smoking, alcohol use, and obesity all affect child outcomes. Environmental factors, such as a shortage of dietary iron or exposure to lead, are also correlated with poverty and can place children at risk.

Zuckerman and Kahn call for expanded provision of comprehensive health services and new models of service delivery, including home visiting to women of childbearing age, beginning before conception and continuing after birth. Particular attention should be given to providing services for low-income women whose children are at elevated risk of poor outcomes.

They also emphasise the connection between reading and early childhood development. Although reading was once thought to be a separate skill that children learned when they entered school, it is now understood that reading skills develop early in childhood and depend to a larger extent than previously thought on early environmental influences. Reading out loud to children, beginning as early as six months old, is probably the most effective intervention for developing literacy skills. Children from low-income families start out with disadvantages compared to those in higher-income families because they are less likely to be read to and because they grow up with fewer books in their home. Zuckerman and Kahn call for increased investment in early childhood literacy-promotion, especially programmes such as *Reach Out and Read* that target both parents and children from low-income families.

Sharon Landesman Ramey and Craig Ramey examine the connections between early childhood experiences and developmental competencies. They emphasise two points: that experience matters, and

that providing the right experiences at the right developmental stages can enhance children's competencies. Both of these points apply with particular urgency to early childhood, given recent findings from brain research.

All children, to grow and develop normally across a range of competencies, need what Ramey and Ramey call "psychosocial developmental priming mechanisms". These mechanisms include experiences that support development through activities such as encouraging exploration, rehearsing new skills, and guiding and limiting a child's behaviour. When children in low-resource environments do not have these experiences, their development suffers. As a result, early intervention programmes that provide these experiences (through models such as *Partners for Learning*) can improve child development, particularly when programmes are well-designed, intensive, high-quality, and targeted to high-risk children. Gains seem to be longer-lasting when children receive follow-up services or enter schools that are at least reasonably supportive. Well-designed out-of-home programmes, such as the *Perry Pre-school Project*, the *Infant Health and Development Programme (IHDP)*, and the *Carolina Abecedarian* project have demonstrated that they can compensate for experiences children do not receive at home.

However, poor quality out-of-home programmes can compromise children's development. This is a concern, given that about 40 per cent of young children are now in child care judged to be of poor quality. Thus, Ramey and Ramey call for developmental programmes such as *IHDP* and *Carolina Abecedarian* targeted on the highest-risk children, as well as broader strategies to improve the early childhood experiences of all children.

School-age interventions

The next set of contributions evaluate programmes and policies targeted on children's development in the school-age years. Jacquelynne Eccles and Allan Wigfield examine the influence of elementary and middle schools on motivation and achievement; Margaret Beale Spencer and Dena Phillips Swanson consider the influence of families and communities on adolescent development; Robert Sampson evaluates the influence of neighbourhoods and communities on youth outcomes.

Eccles and Wigfield review what is known about the development of motivation, an important determinant of performance in and out of school, and emphasise how classroom-level and school-level influences affect both motivation and learning outcomes. Programmes to enhance

motivation attempt to reduce test anxiety, to overcome learned helplessness, to maintain self-worth, and to avoid apathy.

Eccles and Wigfield note that quality teacher-student relationships provide the foundation for academic motivation and success. They review research on the kinds of teacher beliefs and classroom practices that facilitate motivation and achievement. For some disadvantaged children growing up in neighbourhoods with few role models, effective teachers represent a stable source of non-parental role models. Eccles and Wigfield endorse programmes that recognise the achievements of all students, rather than those that reward just the best students, and that evaluate students on their personal progress and mastery, rather than ones that evaluate solely on the basis of outcomes. They conclude that ability tracking often perpetuates poor achievement and behaviour among low-ability children, and propose that if it is used, grouping should be limited to certain classes, such as reading and maths.

Because the transition from elementary to middle school or junior high school occurs in the early stages of adolescent development, the environmental changes associated with this transition – from a smaller to a larger school, from teachers who have about 30 students for the whole day to ones who have 5 times as many for only an hour – negatively affect motivation and academic outcomes for some students. Eccles and Wigfield note that there is often a poor fit between the developmental needs of the early adolescent and the structure of the middle school environment. They discuss how the creation of small schools, “schools within a school”, and “team teaching” can foster a sense of community to ease this transition. In addition, linkages between schools and the broader community, through initiatives such as *Comer Schools* or *Partnership 2000 Schools*, especially in high-risk neighbourhoods, can facilitate adolescent development.

Spencer and Swanson focus on the barriers to development for adolescents, particularly African-American youth, who grow up in poor families in poor neighbourhoods. They point out that racial and economic inequalities compromise school adjustment and that perceptions of limited opportunities lead some disadvantaged youth, especially African-American males, to react negatively to outcomes valued by the mainstream. Poor and minority parents thus need even greater school and neighbourhood supports for socialising their children than do non-poor and majority parents; however, they have less access to them.

Spencer and Swanson advocate the empowerment of families by informing them of available services and resources, promoting their

skills in communication and assertiveness, and fostering their sense of “self-efficacy” so that they will become more engaged with the schools and other institutions affecting their children. They suggest that teachers need training in cultural diversity so that they can better understand and work with the increasing numbers of students of colour. They criticise school intervention programmes that emphasise academic achievement and cognitive skills but neglect the overall socio-cultural and emotional development of students.

Sampson reviews the literature concerning how neighbourhood contexts can either facilitate good outcomes or increase the risk for problem behaviours such as school dropout, teen child-bearing, and low labour force attachment. Neighbourhoods that are racially isolated, that contain high concentrations of the poor, and have high crime rates tend to have low social organisation and lack the informal social controls that keep young people “on the right track”. As a result, these neighbourhoods tend to have increased levels of troublesome child and adolescent behaviours.

Sampson conceptualises community social organisation as the ability to realise the common values of residents and to maintain social controls. Social control involves the realisation of collective goals, such as the desire of community residents to live in safe environments, to have access to good schools and housing, and to experience high levels of economic activity and low levels of crime. He recognises that community interventions are hard to implement, especially in the poor neighbourhoods that need them the most.

Sampson emphasises policy interventions that would restore safety, increase resources and promote residential stability. These include community policing and collective strategies that organise residents to form patrols and pickets and “take back” their neighbourhoods, as well as initiatives that bring together the police and the community, such as Boston’s *Ten Point Coalition* to reduce youth violence. Interventions that enhance social organisation attempt to exert informal social control over and to supervise adolescent peer groups through activities such as organising leisure-time activities, enforcing truancy laws, and promoting mentoring systems to build intergenerational ties between adults and youth. Interventions that would promote housing stabilisation include policies such as resident management of public housing, rehabilitation of run-down housing, strict code enforcement by the city, and encouragement of community development corporations. He also sees promise in housing policies

such as *Moving to Opportunity* that encourage (but do not require) increased neighbourhood integration.

Sampson is optimistic that neighbourhoods can be improved if residents join forces to build community and maintain social order. However, he cautions that the ultimate outcomes in those neighbourhoods are shaped by broader forces, including what happens in the national economy and how city services are allocated across neighbourhoods.

Transitions to work or college

Further papers examine the transitions that adolescents and young adults make as they leave school and enter the world of work and/or continue on to college. Debra Donahoe and Marta Tienda focus on transitions from school to work; Hillard Pouncy reviews the evidence on “second-chance” workforce development programmes for youth who have left school, but have not yet settled into work or college; David Ellwood and Thomas Kane provide new evidence on how the transition from school to community college or college is affected by family background, student ability, public financing and other factors.

Donahoe and Tienda document recent trends in educational attainment, labour force participation, and unemployment for youth and examine the evidence on the timing of arrival to stable employment. Although basic and vocational skill levels among youth have not declined in absolute terms, they have not kept pace with the increasing employer demand for skills. This skills mismatch is a growing problem among poor urban youth and ethnic minorities, especially among Hispanics who have the lowest rates of graduation from high school. Most youth find a stable job by their early 20s. However, youth who do not finish high school, and black youth in general, have difficulty finding stable work. Unemployment is particularly severe for black young men, whereas low wages are a problem for all youth with less than a high school degree.

Donahoe and Tienda analyse the potential benefits of early labour market experience, which has been advocated as promoting improved labour force outcomes. They conclude that because of the recent rise in the returns to education, youth employment is valuable only if it does not interfere with educational attainment, which is even more valuable in the long-run. Programmes designed to facilitate the school-to-work transition, such as vocational education, including co-op programmes, career academies and career clusters, tech-prep programmes, and youth apprenticeships, as well as second-chance programmes for youths who

have already left school, are likely to be beneficial only in so far as they also keep youth connected or help re-connect them to school.

Pouncy reviews the history of job training strategies for the disadvantaged and concludes that traditional programmes, originally developed for unemployed or displaced workers, do not provide the broad range of services needed by most young, disadvantaged workers. He argues that the mismatch between the design of these job training programmes and the needs and problems of the disadvantaged can be overcome by comprehensive “sectoral development” programmes like the *Center for Employment Training (CET)* in San Jose, California. These programmes work hard to build trusting relationships with employers as well as trainees, teach trainees the skills employers want, and offer trainees a broad range of services. Other examples include *Project Strive*, which works with a broad range of young adults in New York City and *Project Match*, which works with welfare recipients in Chicago. Few of these programmes have been rigorously evaluated, but many of them can muster evidence to show that they are effective in helping the most disadvantaged get jobs and move into the mainstream. Further research should be able to pinpoint the extent to which they have succeeded in helping clients and the extent to which successful programmes such as *CET*, *Project Strive*, and *Project Match* can be replicated.

Ellwood and Kane analyse differences and recent trends in the extent of enrolment in two- and four-year colleges by youth according to their family income and parental education. Although differences in academic preparation account for much of the differences in college-attendance by family background, very large gaps in college-going by students from high and low income and high and low education parents remain. Youth with similar academic preparation and test scores at the conclusion of high school enter college at very different rates depending on parental income and education.

The influence of family background on enrolment has increased over time, with family income becoming a more important predictor. At the same time, parental education and income have become more highly correlated, due to the increased pay-off to education. Thus, students from high-income families are now doubly advantaged, in that they tend to have parents with higher levels of education as well. This advantage leads to 5 to 10 per cent higher earnings for these youth later in life.

Ellwood and Kane propose two types of policy responses to narrow the gap in college-going between low-income and high-income youth. In the long run, reducing the high school achievement gaps

between low- and high-income youth would do the most to narrow this gap. However, this is likely to be difficult and to take a long time. In the meantime, Ellwood and Kane suggest expanding policies to address the barriers to college entry for low-income youth. Such policies include providing additional grants for low-income youth or policies (such as hiring more guidance counsellors or simplifying eligibility procedures) to help youth make better use of available funding opportunities. They also suggest that states and schools consider providing a larger share of aid through income-contingent loan programmes.

III. Policy Implications

All the contributors discuss the implications of their findings for policymakers and programme developers. Taken together, the papers contain a wealth of detailed policy suggestions. We draw on these and offer our conclusions regarding the major components of a comprehensive investment strategy for maximising opportunities for children and youth.

One key finding concerns the timing of investments and the advantages of investing early in the life cycle. Lynch, Heckman and Lochner, Zuckerman and Kahn, and Ramey and Ramey each provide several reasons for emphasising early investments. In addition to the evidence that early experience matters a great deal, especially for brain development, the evidence from early intervention programmes shows that well-designed programmes improve developmental outcomes. Early interventions come at a time when families are more open to interventions and lay the groundwork for later development and success.

This does not imply, however, that only investments in early childhood are warranted. Some children, especially the disadvantaged, may miss out on early investments and arrive at school not ready and motivated to learn. Other children, who may have thrived in early childhood, may encounter problems in their school years if they experience new stresses, such as a move to a less supportive school or a more dangerous neighbourhood, a family disruption, a decline in family economic status, or a health or learning problem. As Eccles and Wigfield note, many children need more support from teachers to cope successfully with school transitions (e.g., the transition into primary school, or into secondary school). As Spencer and Swanson note, many students and their parents need more support during the transition from

adolescence to adulthood. And, as Donahoe and Tienda and Pouncy note, many adolescents and young adults need support during the transitions from school to work or school to training. Therefore, it is important to expand investments throughout childhood and adolescence in effective programmes that build social competencies and vocational and academic skills.

A second implication concerns the providers of investments in children. At each stage of the life cycle, many adults can affect children's social and cognitive development. It is not the case that parents are the only facilitators of development in the pre-school years, schools in the school age years, and then employers, trainers, or colleges in the post-school years. Most pre-school age children now spend substantial time in out-of-home care (whether child care or pre-school), but that care is too often of less than adequate quality, as Ramey and Ramey point out. Although school-age children spend much of their time in school, families and communities continue to influence their development and their transitions from school to work or further education. As Spencer and Swanson emphasise, because parents are essential to guiding and monitoring their children's school success, additional efforts should be made to promote their involvement in schools. And, as Sampson documents, community level conditions and interactions between and adults and youth in neighbourhoods can either facilitate or curtail children's development.

Investments in children will be most successful when efforts are co-ordinated, when providers work in partnership, when their efforts are comprehensive, and when the child is treated as a whole person who is developing in the context of his or her family and community. Kahn and Zuckerman, for instance, conclude that paediatricians should broaden their focus beyond children's physical health to promote maternal health and child literacy and to advocate for families experiencing problems with inadequate income and housing. Programmes such as *Healthy Steps for Young Children* and *Reach Out and Read* are promising examples.

A third implication concerns the benefits of investments in children. Because early investments lay the groundwork for later success, pre-school interventions are particularly cost-effective, as their benefits accumulate and are compounded over time. Some interventions for school-age children, too, yield benefits that exceed their costs. And these benefits continue into later life, as more education in the school-age years fosters additional education and training in adulthood. The benefits of these investments do not accrue only to the children who

participate in these programmes. Other children benefit by having peers who are more focused and motivated in the classroom, and hence less involved in anti-social or harmful activities. Society benefits as the children in whom we invest today are the workers and taxpayers of tomorrow. Most important, the children of today are the parents of tomorrow. Effective investments in children today will benefit the next generation of children, as tomorrow's parents will be better positioned to support their development.

The benefits of investments are sometimes underestimated, because programme outcomes are defined too narrowly. As Heckman and Lochner note, programmes that have little effect on cognitive ability may nevertheless raise children's motivation to learn, boost school attendance, and promote prosocial behaviour. *The Perry Pre-School* programme achieved its most lasting effects not on test scores, but on outcomes such as higher employment and earnings, and reduced crime. Defining benefits too narrowly also arises in evaluations of second-chance programmes for adults. As Lynch notes, such programmes may enable parents to be better teachers for their children. As a result, a programme that helps adults pass their high school equivalency exam may have benefits in addition to its impacts on adult earnings or employment.

There is no better way to break the intergenerational cycle of poverty and inequality than to invest in the current generation of children. Well-designed investments in children and adolescents today will promote their future success in the labour market, family life, and social life. Yet, we view these investments as more than a strategy for alleviating the problems of poverty and inequality. Although the poor, racial and ethnic minorities, and immigrants face greater challenges to successful development and have fewer resources available, an increasing share of children – well over half – are growing up in families with only one parent, or with two parents both of whom are dividing their time between parenting and working.

Given the realities of today's labour market, many parents cannot provide all the care and attention and resources that children need to maximise their development. These challenges are particularly acute in the pre-school years, when an increasing share of young children are spending time in child care which is often of dubious quality. Most school-age children, too, could benefit from programmes that offer them a safer and more productive way to spend their time after school and on weekends. School-age children are often left unsupervised, and as a result, may be more likely to engage in a variety of "risky" behaviours.

Continuing changes in the labour market place further pressure on today's children as they become tomorrow's workers. As the workplace becomes increasingly technical, it is not just high school dropouts who face bleak prospects. Many high school graduates who do not receive further education or training may not have the skills needed to succeed in the labour market. In the late 1980s, the William T. Grant Foundation raised a warning flag about the situation of the "forgotten half" – young people who do not go on to college. Today, the prospects for these young people are even worse. Thus the need to develop an investment strategy that prepares and motivates them to participate in further training or education, along the lines suggested by Donahoe and Tienda, Pouncy, and Ellwood and Kane, is even more critical. The former two papers show how schools and workforce development programmes can better prepare high school graduates for the labour market, the latter, how financial subsidies and information about college access can increase college-going.

Based on our reading of the evidence, we propose that parents, foundations, non-profit organisations, and the government should work together to expand investments in the following kinds of programmes:

(1) PROGRAMMES TO IMPROVE THE HEALTH OF WOMEN OF CHILDBEARING AGE

Because maternal health has strong effects on child outcomes, and because many of these effects begin before birth, and because many births (roughly 50 percent) are to first-time mothers, interventions that only target women who already have children fail to serve a substantial number of disadvantaged children. There is substantial evidence about a range of interventions that can reduce the risks that can compromise outcomes for children prenatally. The challenge is to expand programmes, such as school-based health clinics and public education programmes, and convey that knowledge to young women before they have children. In addition, we need to expand programmes, such as *Healthy Steps for Young Children*, the *Supplemental Food Programme for Women, Infants and Children (WIC)* programme, and proven home visiting programmes, to improve maternal health among women who are already pregnant or who already have children.

(2) EARLY CHILDHOOD INTERVENTIONS, TARGETED TO THE MOST DISADVANTAGED CHILDREN WHO ARE AT HIGHEST RISK OF SCHOOL FAILURE

Much evidence documents the effectiveness of early childhood interventions in improving a range of developmental outcomes. We cannot afford to wait until children reach elementary school to undertake investments to improve their school achievement and other outcomes. Learning begins early in life, and our interventions must begin then too. The elements of successful programmes are well-established; the challenge is to expand them to reach larger numbers of children, whether through the expansion of model programmes, such as *IHDP* or the *Abecedarian Project*, or through larger-scale initiatives, such as *Early Head Start*.

(3) MEASURES TO RAISE THE QUALITY OF CHILD CARE AND EARLY CHILDHOOD EDUCATION FOR PRE-SCHOOL AGE CHILDREN

The risks associated with poor quality care in early childhood are not limited to disadvantaged children. Pre-school age children now spend a substantial portion of time in out-of-home care, much of which is of poor quality. Although there has been debate about what constitutes quality care, especially for very young children, the evidence reviewed, including new studies from the National Institute of Child Health and Development (NICHD Early Child Care Network, 1997 and 1998), documents that children benefit when they are in settings that provide sensitive care and experiences that promote their development. We must increase access to pre-schools and improve the quality of child care, whether through universal pre-school initiatives, such as Georgia's, or through more effective regulation and monitoring of child care providers.

(4) AFTER-SCHOOL PROGRAMMES AND MENTORING PROGRAMMES FOR SCHOOL-AGE CHILDREN AND ADOLESCENTS

Because parents need help in supervising their children after school hours, there is a need for expanded programmes to serve children after-school. More generally, adolescents need more support than their schools and families can provide. Mentoring programmes such as *Big Brothers/Big Sisters* and *Sponsor-A-Scholar* can help provide that support, and such programmes should be expanded.

(5) PROGRAMMES TO RAISE LEVELS OF COLLEGE ATTENDANCE BY HIGH-ABILITY YOUTH FROM LOW-INCOME FAMILIES

There is a substantial gap in college attendance between youth who have comparable levels of ability, but differ in their levels of family resources. Although some of this gap is explained by differences in school achievement prior to college entry, some of the gap is due to differences in family income. Expansions of programmes to facilitate college enrolment by qualified low-income students are required if we are to achieve greater equality of opportunity in college attendance. These programmes might entail expanded funding opportunities, different types of funding opportunities, or programmes that help students make greater use of existing funding sources.

These programme and policy enhancements do not exhaust the list of potentially beneficial investments. Given the current political environment, however, it would be difficult to get Congress to allocate the additional funds needed in just these five areas. Nonetheless, we are convinced that these investments would, in the long run, pay for themselves.

The papers reviewed here (and presented in Danziger and Waldfogel, forthcoming) provide evidence on additional policies and programmes that offer promise as sources of investment in children. Readers will differ in their choices regarding the most promising programmes and policies, but they should all conclude that the challenges documented are substantial and that if we are willing to spend the requisite funds, we can invest prudently. Such investments can improve children's outcomes in later life, generating positive benefits that accrue to other children and to society more generally, and spill over to the next generation of children. We have pointed out what those investments should look like, when we should invest, and who the partners in investment should be. Although there is still uncertainty about the effectiveness of some programmes, the key elements of a strategy to secure our future by investing in children are clear. There is little time to lose, as this generation of children cannot afford for us to wait any longer.

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